

## CONFERENCES & MEETINGS

SECOND INTERNATIONAL AGGREGATES SYMPOSIUM,  
HELD AT THE FRIEDRICH-ALEXANDER UNIVERSITY IN  
ERLANGEN, GERMANY, DURING 22–27 OCTOBER 1990

This event was placed under the banner of 'Geosciences assisting land-use planning in settling opposing interests between aggregates' extraction and environmental protection'. It was sponsored by UNESCO's International Geological Union's subsidiary and numerous German and Austrian firms and organizations, being centred around the University's Chair of Applied Geology.

Considerable emphasis was placed upon new technologies in the aggregates' sector and regional studies, all but one of the latter being on Germany. In the domain of technology, a large number of papers dealt with classification and physical characteristics of materials, though one contribution described experience with geophysical prospecting. Little, however, was said about resources' availability, though it was pointed out that, in the former GDR, production sites' geographical distribution leads to extremely high transport costs, capacity concentration, and use-conflict with agriculture. In Thuringia, ground-water has undergone a degree of hardening because former gravel quarries are used as waste-disposal sites — particularly in the Saale Valley, where gypsum models of porcelain objects are dumped.

Although The Netherlands are said to have 'no geological shortage of construction materials', owing to environmental disturbance a search for new sites and for alternative materials is on. A turn to the sea beckoned, but again environmental and ecological consequences, *inter alia* with fisheries, has led to the development of a code of practice, and so governmental regulations were discussed. Marine aggregates' exploitation prognosis encompassed a review of practices, magnitudes, reserves, effects on shore erosion and coastal transit, current technologies, and stressed public opposition to anarchic operations. The need to nurture public awareness was pointed out.

One of the five sessions was devoted to the relationships between production and the environment. Observations covered areas in France, The Netherlands, Germany, and Indonesia. As had been underscored in the key-note address (G. Lüttig), exploitation unavoidably results in optical and acoustical disturbance as well as conflicts with conservation, and is an impediment to leisure-time utilization and several other land-uses. Economically worth-while deposits often remain unexploited today because of public opposition; ensuing problems require solutions on levels ranging from national to local. Whether, as was suggested, geosciences can solve the conflicting situations, is open to debate and ultimate trial, but it is said that geoscience tools and analyses can provide data that should be useful in decision-making.

In Indonesia, quarrying of construction materials has provoked landslides, erosion, water-quality decrease, dust and smoke-pollution, and has damaged river structure. Though regulations apparently exist, they are far from being obeyed. France, on the other hand, claims that over the last ten years regulations have worked. Germany requires an environmental impact assessment before granting an operational licence, so that extraction should be in harmony with the provisions of the Water Policy. Waste and Federal Nature Preservation acts, however, have resulted in delays of from 7 to 10 years before an exploitation could start.

A Dutch paper, while recognizing the serious effects of aggregates' mining upon wildlife and landscape, con-

sidered the usefulness of pits and quarries for geological research, and proposed that the granting of a licence to exploit be conditional on full restoration of the site afterwards. However, there is nothing new in this, as such requirements have been introduced in several countries — e.g. in the Caribbean region and the United States.

German participants discussed remedies for noise pollution, and cautioned about the need to plan for 'after-operations' use of sites and the impacts on fauna and flora.

Several papers dealing with land-use planning touched upon conservation aspects and environmental impacts; the usefulness of thematic maps was not lost on some speakers, and the need to minimize the use of minerals in deference to the need for environmental conservation constituted a positive synthesis of the meeting. There was, nevertheless, a lingering impression that geology dominated the symposium — at which, accordingly, environmental and economic interests took second place.

An excellent guide provided the participants with help in enjoying the post-Symposium excursions — a fascinating experience. The Nain Valley, in the Bamberg area, illustrated aggregates' extraction and subsequent recultivation, while the trip to the Northeastern corner of Bavaria showed mountain-located hard-rock extraction. About 150 persons attended the Symposium which was particularly well organized — despite the rather limited resources that had been placed at the organizers' disposal.

ROGER H. CHARLIER  
2 Avenue du Congo, Boîte 23  
Bruxelles B-1050  
Belgium.

SECOND WORLD CLIMATE CONFERENCE, HELD IN  
THE INTERNATIONAL CONFERENCE CENTRE, PLACE  
DE VAREMBÉ, GENEVA, SWITZERLAND, FROM 29  
OCTOBER TO 7 NOVEMBER 1990

This major event was co-sponsored by the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and its Intergovernmental Oceanographic Commission (IOC), the UN Food and Agriculture Organization (FAO), and the International Council of Scientific Unions (ICSU). Substantial financial support was also provided by Canada, France, Germany, Italy, Japan, The Netherlands, Norway, Switzerland, the United Kingdom, the United States of America, the European Community, the Stockholm Environment Institute, and the Environmental Defense Fund (USA).

The first six days consisted of Scientific and Technical Sessions of a highly interdisciplinary nature. World-class experts in meteorology, oceanography, agriculture, energy planning, water-resource management, forestry, law, health, and environmental protection, were drawn from practically all regions of the world. There were 747 participants from 116 countries. A Conference Statement with many recommendations for action was produced.\*

The final two days consisted of Ministerial Sessions. Of these the Opening Ceremony at the Palais des Nations on 6 November was addressed by the King of Jordan, the

\* Published on pp. 62–6 of this issue — in full, apart from minor editing to fit our style, etc. — Ed.

President of the Swiss Confederation, and the Prime Ministers of France, Malta, Tuvalu, and the United Kingdom. There were 908 participants from 137 countries at the Ministerial Sessions, representing more than 80% of the member states of the United Nations. A Ministerial Declaration was endorsed by the countries present. Global media coverage was assured by the presence of 466 accredited media representatives, which represented by far the largest-ever media coverage of a United Nations-sponsored event in Geneva.

About 40% of the participants in the scientific and Technical Sessions were from the developing world, while over 55% of the delegates to the Ministerial Sessions were from developing countries. About 30% of the Conference budget was used to provide travel assistance to these participants. Both the Conference Statement\* and the Ministerial Declaration acknowledged and endorsed the work of the World Climate Programme (WCP) and related global programmes and the Intergovernmental Panel on Climate Change (IPCC).

The Statement\* and Declaration call for the urgent negotiation of a Framework Convention on Climate Change, with a view to signing such an agreement in time for the UN Conference on Environment and Development (to be held in Rio de Janeiro, Brazil, in mid-1992). Both documents advocate actions leading to the stabilization of atmospheric concentrations of 'greenhouse' gases, and specifically note that scientific uncertainties, though significant, should *not* be used as a reason for delaying action to minimize adverse impacts of climate warming.

The special needs of developing countries were clearly recognized, with various recommendations stressing the need for technical and financial support to encourage sustainable economic development along environmentally-beneficial pathways. Both documents strongly urge increased support for research and enhanced global monitoring of climate. In particular, the Ministerial Declaration states:

- We recognize the importance of supporting the needs of the World Climate Programme, including contributions to the WMO Special Fund for Climate and Atmospheric Environmental Studies;
- We invite the 11th Congress of the World Meteorological Organization, in the formulation of plans for the future development of the World Climate Programme, to ensure that the necessary arrangements are established, in consultation with UNEP, UNESCO (and its IOC), FAO, ICSU, and other relevant international organizations, for effective coordination of climate and climate-change-related research and monitoring programmes.

In their official statements read out during the Ministerial Sessions of the Second World Climate Conference, the governments of Canada and the United States committed, respectively, \$1,000,000 and \$500,000 to the WMO Special Fund for Climate and Atmospheric Environmental Studies.

HOWARD L. FERGUSON, *Coordinator  
SWCC Coordinator's Office  
c/o World Meteorological Organization  
PO Box 2300  
CH-1211 Geneva 2  
Switzerland;  
Formerly: Assistant Deputy Minister  
Atmospheric Environment Services, Canada.*

INTERNATIONAL CONFERENCE ON GROUNDWATER RESOURCES MANAGEMENT, HELD IN THE ASIAN INSTITUTE OF TECHNOLOGY (AIT), NEAR BANGKOK, THAILAND, DURING 5–7 NOVEMBER 1990

The Conference was organized jointly by the Division of Water Resources Engineering, AIT, the Department of Mineral Resources of the Royal Thai Government, and the International Water Resources Association (IWRA). It was supported by the United Nations Environment Programme and the Canadian International Development Agency.

The five main objectives of the Conference were to:

- 1) Bring together a diverse group of practitioners and research workers in the field of ground-water assessment and management;
- 2) Provide information about world-wide experience in the application of modern tools of mathematical modelling and systems analysis to ground-water management and related environmental problems;
- 3) Identify some directions for future development based on the results of past experiences;
- 4) Identify priorities, needs, and techniques, in ground-water management education; and
- 5) Stimulate technology transfer, education, and application of the modern management tools, to a wider horizon.

The Conference was opened by Professor Helmut Eggers, Vice-President of Academic Affairs, AIT, who noted the importance of ground-water as a subject of research and training at AIT for some three decades. In his Opening Address, Mr Visith Noiphan, Director-General, Department of Mineral Resources of the Royal Thai Government, noted the importance of the role of ground-water in continuing the sustainable development of Thailand.

In his Keynote address, Dr Anat Arbhahirama, Chairman of the Petroleum Authority of Thailand and one of the country's eminent water experts, outlined the major problems facing Thailand and other developing countries in the area of rational ground-water management. Ground-water currently is being exploited at a higher rate than its replenishment in many parts of the world, which is contributing to the lowering of the water-table. This, in turn, is contributing to many economic and environmental problems. A good example is Bangkok, where extensive ground-water pumping has contributed to serious land subsidence problems. The resulting socio-economic costs have been enormous. Another major problem has been ground-water contamination.

Dr Anat pointed out that a major problem facing rational ground-water management is the lack of adequate and reliable data. Even where data are available, concerned ministries have been unwilling to share them amongst themselves. This situation must change if ground-water is to be managed properly.

In delivering the IWRA Distinguished Lecture for 1990, the undersigned reviewed the opportunities and constraints which were due to confront the world in the area of sustainable ground-water management in the 21st century. He pointed out the three leading problems in the area of ground-water management which the world was going to have to face in the coming decades. First is the serious problem of ground-water depletion due to increasing water demands for agricultural, domestic, and industrial, purposes. In addition to land subsidence and other